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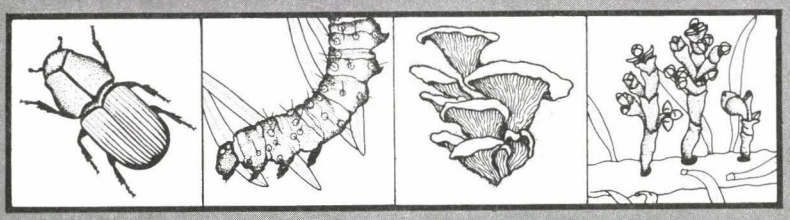

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EVALUATION OF A DWARF MISTLETOE CONTROL PROJECT, KENO-KENNEDY CREEK SALE BUREAU OF LAND MANAGEMENT

By

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ABSTRACT

Residual, nonmerchantable lodgepole pine are dwarf mistletoe-infested and pose a threat to future plantings. Felling, piling, and burning these residuals, followed by planting, will effectively reduce dwarf mistletoe intensity and increase future volume yields. Control is recommended.

INTRODUCTION

The BLM Butte District has proposed a dwarf mistletoe control project on the Keno-Kennedy Creek Timber Sale, Garnet Resource Area.

Richard Betts, BLM, and I evaluated the units on July 29.

TECHNICAL INFORMATION

Causal agent.--Lodgepole pine dwarf mistletoe, Arceuthobium americanum.

Host.--Lodgepole pine, Pinus contorta.

Type of damage.--Reduction of tree vigor, height, and diameter growth, and some mortality. My estimate for average volume loss in infested lodgepole pine type is about 8 cubic feet per acre per year. 1/ This does not include losses to other pathogens and insects in trees made vulnerable by dwarf mistletoe.

1/ Dooling, O. J., and R. G. Eder. 1981. An assessment of dwarf mistletoes in Montana. USDA Forest Service, Northern Region, Forest Pest Management Report 81-12.

UNIT DESCRIPTION

The Keno-Kennedy unit is in the NE 1/4 of Sec. 32, T13N, R13W. The area covers 28 acres, and contains a widely scattered Douglas-fir and western larch overstory with a clumpy understory of lodgepole pine, subalpine fir, and Douglas-fir saplings and poles. Old-growth lodgepole pine is heavily dwarf mistletoe-infested; second growth is lightly infested. Moderate defoliation of Douglas-fir and subalpine fir by the western spruce budworm has occurred in the past. Red-brown cubical root and butt rot caused by Phaeolus schweinitzii, is present in the roots of several windthrown Douglas-fir.

MANAGEMENT OBJECTIVES

Objectives are to manage the timber resources for a high sustained yield and provide a balance of forage and cover on big game summer habitat.

MANAGEMENT ALTERNATIVES

1. Defer treatment.--Leaving infested residual lodgepole pine will result in continued infection of, and losses in, the present stand. The stand may eventually provide security cover for big game, but will not meet the timber growth objective. This alternative has the advantage of requiring the least investment.

2. Treat.--BLM proposes to treat the unit in this sequence:

> Year 0 - Slash, dozer pile, and burn the dwarf mistletoe infested lodgepole pine and other undesirable trees. Leave some Douglas-fir and all western larch for seed trees.
>
> Year 1 - Plant 500 lodgepole pine per acre.
>
> Year 10 - Remove seed trees.
>
> Year 70 - Thin.
>
> Year 110 - Clearcut.

This alternative will help meet both timber growth and big game objectives.

3. Others.--Other alternatives are available for management of the unit, but they will not meet timber or big game objectives.

PREFERRED ALTERNATIVE

Alternative 2 is preferred.

DISCUSSION

Reduction of dwarf mistletoe impact through silvicultural practices is biologically sound. The cost of disease control only--slashing dwarf mistletoe-infested lodgepole pine--is $68.34 per acre, a portion of the total cost. The proposed treatment is sound, and will increase stand productivity and produce forage and cover for big game.

Since P. schweinitzii is infecting the larger windthrown Douglas-fir, I expect the saplings and poles are also infected. If any of these trees are left, windthrow will likely occur in the future.

RECOMMENDATION

I recommend the use of insect and disease funds for removing the dwarf mistletoe-infested lodgepole pine residuals.